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ABSTRACT

A study investigated whether increasing the motivation/interest for children and their families to engage in more frequent and higher quality shared book reading interactions will significantly increase the vocabulary and reading/reading readiness abilities of school-aged and preschool children. Subjects were 30 preschool and 30 school-aged children and their families from Kankakee County, Illinois, who signed up for the research (57 completed the study). They were divided into treatment groups and control groups for each age level and location--Kankakee and Bourbonnais. Children were pretested; t-tests were conducted, and test scores were not found to be significantly different for each group. Treatment group children were located at Kankakee, and control group children were located at Bourbonnais. Parents kept a running record on forms provided of how many books they read with their children during the program's period. Re-reading was allowed, and each reading counted as a separate event on the list. Parents in the two treatment groups were given a "Book Reading Suggestions" sheet with eight ways to improve book reading quality, and whether parents followed these suggestions was monitored. The most books read by any family was 56; the median number of books read was 29. Findings suggest that receptive vocabulary and reading ability appear to develop along separate lines. The "folk wisdom" effects of shared book reading upon the development of either vocabulary or reading ability were not found. (Contains 60 references, and 2 tables of data and a figure; appendixes with definitions, abbreviations, and parent questionnaires are attached.) (NKA)

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Examining the effects of shared book reading across age-groups

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Running head: Reading

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Examining the effects of shared book reading across age-groups

An issue that has been in the spotlight of late has been the effect of sharing book reading experiences with children. It has been said that reading to very young children can have great benefits in relation to their acquisition of skills that lead them eventually to learn how to read. It has become "folk wisdom" that reading to children makes them smarter. Many take this premise of "reading with your kids makes them smarter and able to do better at school" for granted but have never looked at the research to find out whether or not this may be, in reality, true. Does shared book reading automatically increase childrens' performance in vocabulary and reading tasks as folk wisdom says or are other variables involved such as innate intelligence, the quality of the reading experience or parent and child interest in reading and learning? The underlying question is then, what variance in outcomes such as language skill, emergent literacy, vocabulary and reading can be attributed directly to shared book reading?

As a preschool teacher and as a director/teacher of school-age summer and after-school programs over the past several years this issue is of great personal interest to me. Having worked with preschoolers and with school-aged children (two distinctly different age-groups), I have seen large differences between them and have marveled at the impact even one year of school can have.

As a teacher who has focused on language acquisition and has a special interest in book reading, I am interested in learning what effect my book reading has on the vocabulary development of "my" kids. Preschoolers are children between the ages of 3 and 5. School-aged children refers to all children who are attending school from Kindergarten (typically 5-year olds although some are 4 or 6) through the 8th grade.

The particular question investigated is whether or not shared book reading experiences will promote vocabulary development and subsequent reading acquisition in preschool and school-age children. Specifically, I will investigate whether or not vocabulary and reading scores of the preschoolers and the school-aged children will improve after a one-month long reading program designed to raise levels of frequency and interest in shared book reading experiences. In comparing preschool and school-aged children, the older children may gain more from shared book reading experiences because they are on a higher level academically. On the other hand, younger children may gain more because they are at a receptive age and ready to take in large amounts of information in conjunction with another piece of folk wisdom that states "the younger they get it the better". Scores may rise more substantially for one group than the other or not change in either group.

This research is relevant because the folk wisdom that reading automatically makes your children "smarter" is being generally accepted without examination of research evidence. It

is predicted that shared book reading will increase child knowledge and ability. Adams (1990) stated that learning to read is important because reading is important to the economic future of our country. Our society wants our children to succeed but, sadly enough, American children often lag behind the children of other nations academically in later grades.

Before the literature regarding the issue of the effects of shared book reading is summarized, it is important to define terms used. "Shared book reading" will be defined as any period of time in which children sit down with an adult (parents, family members or teachers) and either the adult reads the entire book to the child (as with younger children), the child reads along with him/her, the adult and child(ren) take turns reading the book or the child reads the entire book to the adult. The term "literacy" refers to the ability to read, spell and write whereas the term "emergent literacy" refers to skills such as the ability to identify and print letters of the alphabet, understand some rudimentary letter-sound relations, recognize some printed words and to have some knowledge of the mechanics and purposes of reading books (Scarborough & Dobrich, 1994). "Receptive vocabulary" refers to the ability to hear and understand the meaning of words whereas "expressive vocabulary" refers to the ability to use words in communication. See Appendix 1.

Theories

The process of acquisition of the ability to read is of great interest and importance in our world. Jean Piaget (1963)

wrote that learning is the structuring of schemes or representations of experiences. The learner is active in the process of taking `raw data' and `real experiences' and transforming them into mental schemes. If Piaget (1963) is correct, then the process of learning to read must involve the child taking real life experiences such as shared book reading with a parent, teacher or other literate adult and mentally manipulating these experiences into schemes.

Vygotsky (1978) theorized about a "zone of proximal development" which is defined as "the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers" (p.86). In other words, children can, through social interactions with knowledgeable others, have support enough to aid them in reading materials that they could not read alone. They can, it is theorized, build their vocabulary and other skills with adult support to help hold them up (Mason et al, 1992). In simpler words, reading with a child may help them learn more difficult material than they otherwise could without some help from an adult.

Observational studies of the impact of shared book reading experiences on learning

Learning theories have been applied to the issue of children learning to read in efforts to predict the effects of shared book reading on skill development. First, children learn through

identification and social-learning (wanting to be like the parents) and they imitate adults with pretend and real reading of their own (Bandura, 1977). Secondly, the positive reinforcement of attention, physical contact and physical praise within the reading situation increases motivation for the child to share books and learn to enjoy books (Skinner, 1953). Thirdly, emotional security and confidence stemming from the warmth of a book reading situation supports the childs' well-being, self-confidence and good feelings about reading (Department of Education and Science, 1975). Fourth, children can learn language from stories and discussions of the stories (Olson, 1977). Finally, children are thought to gain basic understandings like `books read left to right' and `books begin and end' from shared book reading (Durkin, 1970). Taking these theories into account, researchers have completed the following observational studies of the effects of shared book reading.

Frequency Variables

The Commission on Reading (1985) said that shared book reading with children is the `single best way' to teach children to read. As a result, many studies have investigated variations in frequency of shared book reading experiences with children. Many studies (reviewed in Scarborough and Dobrich 1994) have used parent questionnaires that asked questions about the following: how many times per week they read books, how long they read at each sitting, was book reading a regular event, had they read a book yesterday, how frequently they visited the library, the

number of childrens' books in the home and the age at which the parent recalled beginning to read to their children (Dunning, Mason and Stewart, 1994, p.330). The age of onset of shared book reading has been found to be a strong predictor of language skills showing that an early start is associated with higher levels of language skill (Wells, 1985). The importance of this can be seen in Calfee & Piotkowski (1981) when they reported that preschoolers who are ahead when they enter school tend to stay ahead in language proficiency outcomes. At the other extreme, children entering the 1st grade behind their clasmates stayed behind and were unable to catch up later.

Crain-Thoreson & Dale (1992) reported statistics on a sample of 25 (9 boys/16 girls) linguistically precocious children. These children were selected as precocious because their performance was two standard deviations above the normed mean on one or more of the following measures: ELI Vocabulary, MLU (Mean Length of Utterance) or Bayley Language Subscale. Two parental reports of child literacy exposure were used as predictors: the frequency of story reading (episodes per week) at age 24 months and the childs' preschool exposure to instruction (parent-reported retrospectively when child was 4.5 years old) in letter names and sounds. Outcome measures included the Peabody Picture Vocabulary Test-Revised (PPVT-R: receptive vocabulary measure), the Wechsler Preschool and Primary Scale of Intelligence-Revised (WPPSI-R: Information and Block Design subtests), the Peabody Individual Achievement Test (PIAT: measure of reading ability) the Test of

Auditory Comprehension of Language-Revised (TACL-R: measure of syntactic comprehension)and the Stanford-Binet IV (SB-IV).

Hierarchical regression analyses were used to evaluate the predictive power of early literacy exposure. Performance on the outcome measures used (PPVT-R, TACL-R, MLU, S-B IV and WPPSI-R) showed increases in R^2 ranging from +.089 to +.455 showing that literacy knowledge is indeed predicted by the frequency of literacy exposure. The authors report that story reading variables significantly predicted outcomes on the PIAT, Concepts of Print and Phonological Awareness but not on Invented Spelling. 45% of the variance in spelling skill was explained by parent reports of the children having being exposed to instruction in letter names and sounds and not by reading frequency.

In this study, we can see that the frequency of reading stories to children predicts vocabulary and syntactic knowledge at the younger ages and achievement in reading recognition, phonemic awareness and syntax. However, the data consists only of correlations between early shared book reading and language and literacy outcomes and these correlations are moderate at best (mostly weak) and do not show clear and direct causal relations among frequency, vocabulary and reading acquisition. Crain-Thoreson & Dale's sample was limited to a sample of precocious talkers (who were not found to be precocious readers), found weak to moderate correlations and stated that "Child engagement in the story-reading episode showed greater predictive validity than either proportion or frequency of parental utterance

functions...but is potentially an independent source of variance in literacy outcomes."(Crain-Thoreson & Dale, 1992, pp.424-5)

In 1991, Scarborough and Dobrich investigated the effects of parents being either good or poor readers themselves and found that the 2nd and 3rd grade children of parents that tested as poor readers (who themselves had been read to less frequently as children) tended to read less and exhibited less enjoyment of reading. Accordingly, by 2nd or 3rd grade the poor readers had accumulated substantially less experience with books and were poorer readers. Again, a weak correlation between frequency of shared reading and later reading achievement was observed. Other factors such as intelligence, socioeconomic status (SES) and interest in reading were not factored out and confound the interpretation of the correlation.

Burgess (1997) reported on a longitudinal study investigating the development of phonological awareness in which 115 preschoolers were tested with the Illinois Test of Psycholinguistic Abilities (ITPA - Kirk, McCarthy & Kirk, 1968), the Test of Language Development - Primary Second Edition (TOLD - Newcomer & Hammill, 1991), two measures of phonological awareness adopted from Bryant, MacLean, Bradley and Crossland (1990) and two measures adapted from Wagner et al. (1994). Frequency of shared reading was measured by a parent questionnaire which asked about the age of onset and typical duration of picture book reading experiences. SES was determined using the Hollingshead Four Factor Index (Hollingshead, 1975).

Ninety-seven children from advantaged families (families with Hollingshead Four Factor Index scores of 30 and above) were selected for the study. The reason only advantaged families were studied was to control for factors other than reading frequency (parent level of education, etc.) that also affect reading performance (Lonigan, 1994; Scarborough & Dobrich, 1994). Bivariate correlations were computed (after posttesting was completed one year later) and the shared reading measures explained approximately 9% of unique variance in the growth in phonological awareness after accounting for the effects of age, preschool attended, the phonological awareness autoregressor (a measure of letter and basic word recognition) and oral language ability. This study did show a weak association between reading frequency and growth in phonological awareness (on tasks such as discerning which of three pictures did or did not rhyme and blending and deleting phonemes to make words) but again no definitive proof that the folk wisdom regarding the efficacy of shared book reading is true (Burgess, 1997).

In 1993, DeBaryshe reported on a study of 41 (24 girls/17 boys) two-year-olds and their mothers. Mothers were interviewed in a university lab setting regarding family demographics, child language history and the mother's current shared book reading practices with the child. Mothers in this study began reading to their children at the average age of 7.6 months, read daily and read an average of 18.02 stories per week. 75% of the children were familiar with their library (going there an average of 2.75

times per month) and 39% had enrolled in a library program such as preschool story hour.

The children were tested using the revised Reynell Developmental Language Scales (Reynell, 1985) yielding receptive and expressive vocabulary scores. Multiple regression techniques showed that receptive vocabulary correlated marginally with very early and continuing home reading exposure. Expressive vocabulary was not significantly predicted by very early home reading exposure until an outlier was excluded at which point $R^2=.35$. Age of onset of shared reading correlated moderately with language skill. Children whose mothers began reading to them at younger ages had stronger receptive vocabulary scores. The number of stories read per week also correlated with higher receptive vocabulary scores. Results show that the frequency of shared book reading does have a positive correlation with the development of vocabulary and particularly so when shared reading starts at the younger ages. "This suggests that variation in the frequency of reading exposure may be less important than a history of early and continual reading" (p.459). However, in this study we again see that even the correlations that are significant are not strong and are possibly confounded with other factors such as IQ or SES that were not examined and therefore need to be interpreted with caution.

Shared book reading occurs in places outside of the home as well. Shared book reading experiences both at home and at school were found to have greater positive effects on the children than

school experience alone (Whitehurst et al, 1991). Shared book reading teaches children verbal turn-taking and dialog skills (DeBaryshe, 1992). Daily small-group reading experiences facilitated significant gains in verbal participation, story comprehension, protoreading attempts and in tested vocabulary skills (Morrow, O'Connor & Smith, 1990). A higher frequency of shared book reading with preschoolers has been found to correlate positively with their concurrent language skill, reading readiness and later language and reading abilities in their elementary school years. More specifically, the frequency of shared book reading between the ages of 1 and 3 was positively associated with expressive vocabulary at age 5 and reading comprehension at age 7 (Wells, 1985). Although reading certainly appears to have positive effects, the specific aspects of reading which may affect vocabulary and/or reading development have not been clearly delineated.

Mason et al. (1992) reported that parents in their study were given a questionnaire assessing home literacy factors and family background. Additionally, parental support, child interest in literacy, and SES were assessed. Early reading ability was assessed with the Wide Range Achievement Test (WRAT - Jastak, Bijou, & Jastak, 1978) and an Early Reading Test (ERT) modified from an unpublished test by Mason and McCormick (1979). Early Reading and Child Literacy Interest variables (from factor analyses of questionnaire variables) predicted decoding and reading success in Kindergarten and early first grade. We can

see the connections between early knowledge about reading and early language competencies (that children have by the beginning of kindergarten) and reading achievement through the third grade (Mason, Stewart, Peterman & Dunning, 1992).

Scarborough and Dobrich (1994) found that, overall, parents in their study spent an average of 15 to 30 minutes per day reading with their children. However, lower SES families spent significantly less time reading. As for the children who did not report enjoying reading, they posited a "broccoli effect" in which they hypothesized that children who are forced to share book reading against their wishes (it's good for you so sit down and listen!) might actually (like forcing kids to eat broccoli) grow up hating reading and never learn to enjoy it later (and get good at it) later in life. A threshold level has also been postulated specifying that, beyond a certain amount of shared book reading with a responsive adult, differences in frequency and quality of shared book reading may have little bearing on skill development and that too much is not beneficial and may be `overkill' (Stevenson & Fredman, 1990). There are limits then to the amount of reading that is appropriate with both too little and too much having negative effects on the development of language skills.

Scarborough and Dobrich's 1994 review of all published material from the previous 30 years regarding shared book reading showed that, after all other factors (such as socioeconomic status (SES), early interest and abilities of the children,

income, age and intelligence) are factored out across the 31 research samples (20 correlational studies and 11 intervention program studies), they found that the average magnitude of the correlations across the studies was not as strong as expected and that variability of results across the studies was high. They found other variables besides frequency factoring into the development of the child such as the quality of the interactions during shared book reading and family variables such as parent and child beliefs about reading and literacy and both parent and child interest in shared book reading.

Quality and Family Variables

In addition to studies that have looked specifically at the frequency of shared book reading that children experience there are several observational studies that have examined the quality of the interactions involved. Studies of lower socioeconomic-level families (Teale, 1983; 1986) found that only 3 out of 24 children were read to regularly. African-American parents involved in the study shared very little book reading with their children and the lower SES Caucasian parents read to their children less frequently and in a less interactive style than the higher SES Caucasian families.

The beliefs that parents have about the value of learning and when children should start to learn have a great affect on their children. Families with higher and lower levels of support of their child's learning were identified by measuring the frequency of shared reading, number of books owned, books read

per sitting and age of onset of reading. Children in low support families (mothers had less facilitative beliefs about learning) read alone less, enjoyed books less and had weaker vocabulary skills (DeBaryshe, 1992). What this means is that families that do not value reading tend to model reading less, waited until their children were older to start reading to them and consequently, read less overall with their children. While shared reading is a daily ritual in many homes, to some it is viewed as unnecessary if not bothersome (DeBaryshe, 1993). These family differences confound any results regarding the effects of shared book reading pointing us toward the need for experimental (as opposed to observational) evaluation of shared book reading with these variables controlled for to find any unique effects of shared reading experiences.

Parental beliefs determine the value that parents place on language stimulation at young ages. Parent need for shared time with their children, and their beliefs about the age that shared book reading starts to be beneficial, influence the age they begin sharing book reading with the children (DeBaryshe, 1993). A moderate association was found between the age of onset of shared reading and language skills through use of a structured interview and the Reynell Developmental Language Scales (Reynell, 1985) showing that reading with children early does correlate with language skill development at least to some extent.

A highly interactive story-reading style (reader acts interested in and excited about reading the story, introducing

and summarizing, rereading as necessary, understandable pace, variable and/or interesting voice tone, stopping to involve the children in questions and predictions and so on) can enhance vocabulary learning for a child and can have appreciable effects on his or her overall language development (Whitehurst et al, 1988). In addition, other factors surrounding the book reading experience such as introducing and wrapping-up the story, rereading familiar stories, the quality of the books and familiarity with them factor in to increase the quality of the interaction and the possibility of benefits deriving from it (Dunning et al., 1994)

Shared book reading can instruct a child about how to interact with a book and how to interpret the decontextualized language of school (Crain-Thoreson and Dale, 1992). Many children experience only informal, conversational language prior to going to school and then suffer the consequences when they hit the more formal "book" language of school. In other words, they may not have developed an understanding of the vocabulary and sentence structure used in books and in school. The "book" language of school can be more abstract and is not necessarily tied to the context of your immediate situation and is therefore more difficult for those not previously exposed to it (through shared book reading) to comprehend. It appears then that many variables within the frequency and quality of the shared book reading experience factor into the development of vocabulary and reading ability. Additional studies have examined the impact of

child interest in books and learning on skill development.

Child Interest

Most of the studies examined for this experiment have shown that child interest in shared book reading experience and in learning in general tends to be the most significant predictor of their success in vocabulary development which in turn leads to literacy success (DeBaryshe, 1992,1993; Crain-Thoreson & Dale, 1992; Mason et al, 1992; Scarborough & Dobrich, 1991, 1994;) Studies have, in fact, shown that measures of child literacy interest and parent support and not measures of shared book reading frequency or quality of reading predict end-of-3rd-grade reading comprehension (Dunning et al, 1994). Chang (1994) studied the acquisition and use of English and Chinese and found that parental attitudes had a strong influence on child attitudes, language of choice and ultimately success in learning a subject. Parents and children have great affects on each others' interests and, in turn, upon their successes.

Child engagement (meaning `how much they're into it') with shared book reading was found to be predictive of language, cognitive and literacy outcomes in a Crain-Thoreson and Dale (1992) study in which shared book readings were videotaped. Maternal and child utterances were transcribed and coded by function (questioning, reading, responding, simplifying) and child verbal and nonverbal behaviors were coded as an index of child engagement. Interrater agreement was .89 for nonverbal and .94 for verbal engagement. Child engagement was predictive of

the Information subtest of the WPPSI-R, the TACL-R and the Peabody Picture-Vocabulary Test-Revised. Child engagement was used as an indicator not only of how well the child has learned to learn from books but also of general intelligence because child engagement has been highly predictive of later performance on standard intelligence tests.

As well as child interest, studies have looked at teacher interest in literacy and have found that preschool students of teachers who are interested in literacy acquisition and believe that it is an important issue tend to score better on measures of vocabulary knowledge and language comprehension (Dickinson & Moreton, 1991). Student engagement has been found to depend on the atmosphere created by the classroom teacher in terms of support, momentum and expectations that the teacher conveys. If the teacher engages the active attention of the children then he or she has succeeded in piquing their interest and therefore facilitating success (Adams, 1990).

Children have been found to participate more in a shared book reading experience when the book used is familiar. Accordingly, with heightened interest and participation comes more learning (Beals & DeTemple, 1992). On the other hand, children with less interest in books and learning tend to amuse themselves less with books. Children that had accumulated less experience with literacy-promoting activities had less success in school (Scarborough and Dobrich, 1991).

In the Bristol Study (Wells, 1985a, 1985b, 1986; Wells et

al, 1984), preliteracy knowledge scores (from parent interviews) at 5 years of age correlated strongly to reading achievement at 7 and 10 years of age and correlated with parental reports of the degree that their preschool children had been able to concentrate on activities associated with literacy, (r=.56); the child's perceived interest in literacy, (r=.45); and how long the preschooler typically chose to spend on activities associated with literacy, (r=.65). Because Wells found that 11% of preschool children reportedly enjoyed shared book reading "not at all" developing ways to encourage child interest is important. In an observational study of kindergarten children, the children who were interested in books and learning did better on a standardized reading readiness test (Morrow, 1983). Exposure to reading and interest in reading significantly correlated both with each other and with child language skill. However, neither one contributed uniquely to vocabulary or reading skill development (DeBaryshe, 1992). It appears then that these variables work together closely in the development of skills in the child.

Experimental studies of the impact of shared reading on vocabulary development and reading ability

Finally, several studies (Brzeinzki, 1964; DeBaryshe, 1992; Donachy, 1976; Irwin, 1960; McCormick & Mason, 1986; Whitehurst et al, 1988) have looked at intervention in the shared book reading process. Researchers have made efforts to increase the frequency and/or quality of shared book reading experiences.

Results showed that modifying the amount of book reading in the home and the ways in which book readings happen have positive effects on the vocabulary, language and reading skills that the children exhibit.

Brzeinski (1964) examined gains in achievement in three groups of children from kindergarten through fifth grade. The three groups included a control group whose parents received no instruction in teaching basic reading skills, a group whose parents received training to teach their children in the home using a guidebook and educational television, and a group that received that training plus parent-discussion groups with an experienced teacher. Thirty minutes per day of practicing the lessons from the guidebook and following the educational series of television shows was established as a minimum and those who practiced thirty minutes or more per day showed significant gains in achievement although specifics were not given. Children who practiced the lessons for more than thirty minutes per day and had been read to more than sixty minutes per week showed the greatest achievement. However, specifics were not given and Brzeinski even mentioned that parent interest, concern and participation are very important factors in the development of the child. Again, specific evidence of reading uniquely affecting the development of reading skills has not been given.

Irwin (1960) compared phoneme production of two groups of infants (twenty-four in the experimental and ten in the control group). The mothers of the experimental group children were

instructed to spend 15 or 20 minutes per day reading illustrated story books to their infants. Books were brought into the home during home visits which were conducted every two months from age 13 months until age 30 months. Controls received no reading instructions or home visits during the program. During the home visits the frequency of spontaneous vocalizations was recorded on paper by the examiner, means were calculated and modified t-tests were used to analyze the data. Small variations were found between the groups mean scores until the age of 17 months at which time the experimental children began to show higher frequency-of-vocalization scores than the control group. Whether or not these children retained their higher levels of phoneme production later on (or scored higher on other tests involving reading or vocabulary later on) was not documented so we do not know whether these were permanent gains or short-term ones nor do we know other relevant information on skill development for these children.

Donachy (1976) examined the effects of a four-month long program in which four experimental groups of 3 and 4 year-old children (who were involved in nursery or primary school-based programs encouraging mothers to read 30 minutes per day with their children) were compared to two control groups of children whose mothers did not participate in groups nor were they given time guidelines for sharing reading. Groups A and B were 4 and 3 year-olds respectively and were involved in school-based programs and parent program. Groups C and D were 4 year-olds involved in

nursery school (D-Morning, C-Afternoon) and the parent program. Groups E and F were 4 and 3 year-olds respectively who lived 20 miles from the other groups and received no school, nursery or parent program. Parent program mothers met weekly for tea, discussion groups and the receipt of books to read to their children. Groups were matched by age, gender, social class and English Picture Vocabulary Test (EPVT) scores. Pre-testing and post-testing involved the EPVT, Reynell Developmental Language Scales (RDLS) and the Stanford-Binet (SB). Results of the 3X2 ANOVA conducted show that control groups showed no significant gains on any measure but that the school-based 4 year-olds gained significantly on the EPVT. Only the groups involved in the parent-program made significant gains on the Stanford-Binet and RDLS. Significant gains were made in language comprehension and expressive language scores (RDLS) by parent-program children. This study shows the effects of parents being interested and involved with their children. Confounding variables such as social class, age and gender were ruled out but extra attention to `program children' by staff was mentioned as a possible contributor to scores. This program shows the effects of moms and their kids getting interested and involved in reading and learning but strength or longevity of the effects are not shown nor are unique effects of the shared reading experience.

Whitehurst et al. (1988) found that increasing the quality of reading in the home improved childrens' expressive vocabulary. Families in the treatment group experienced a four-week-long

reading program. All parents recorded three or four of their weekly reading sessions and the treatment group parents received instructions to increase their rates of open-ended questions, function/attribute questions, and to decrease their frequency of straight reading and questions that could be answered by pointing. The control group parents were instructed to continue reading in their customary fashion whereas the treatment group parents participated in two 25-30 minute training sessions in which skills used were explained, experimenters and assistants role-played book reading, and parents role-played book reading to an assistant.

Treatment and control children were pretested and found to have expressive, receptive and performance skills within the normal range using the Denver Developmental Screening Test and the Early Language Milestones Test. At the time of posttesting, the treatment group was 8.5 months ahead of the control group on the Illinois Test of Psycholinguistic Abilities. The Mean Length of Utterance for this group was 2.55 words compared to 2.04 words for the control group showing that increasing the frequency and quality of shared book reading has definite positive effects on linguistic abilities. Significant group score differences were found in t-tests of the ITPA and the EOWPVT favoring the treatment group. Differences on the PPVT also favored the treatment group but were not statistically significant.

Analysis of the audiotapes indicated that the expressive vocabulary of the treatment group children was significantly

higher than the control group children in terms of longer mean length of utterance, a higher frequency of phrases and a lower frequency of single words (Whitehurst et al, 1988). The efforts made in this study to enhance the quality of the book reading sessions in the home had significant positive effects on the vocabulary and other language skills of the children involved in the treatment group that were not found in the control group. This treatment increased the frequency and quality of the interactions of parent-child shared book reading experiences and significant positive gains in skill development resulted.

DeBaryshe (1992) studied 45 two-to-four-year-olds in a Head Start program. Parents of an experimental group of 19 children were given two training sessions that emphasized asking challenging questions, reading less from text straight through and giving informative feedback to child comments. Parents of the second experimental group of 18 children were simply encouraged to read to their children and were asked to record their reading sessions. Parents of 17 control children were not involved.

Dependent measures used involved a family survey, recording logs, the PPVT (Dunn & Dunn, 1981), the EOWPVT (Gardner, 1981) the ITPA (Kirk, McCarthy & Kirk, 1968), and the Test of Early Reading Abilities-2 (TERA-2: Reid, Hresko, & Hammill, 1989) and a structured story telling task. Alternate versions of the vocabulary tests were given at pretesting and posttesting. No statistically significant pretesting or posttesting results were found on any of the tests administered. Explanations offered

included the overshadowing effects of the Head Start program or that older children (with more developed lexicons) might show gains in other domains. I surmise that older children that do exhibit well-developed vocabularies appropriate for their age would exhibit larger gains in reading achievement.

A study by McCormick and Mason (1986) found that the use of very-easy-to-read hand-made (by experimenter) books sparked interest in reading. This sample of kindergarten children was pretested at preregistration with the Developmental Indicators for the Assessment of Learning (DIAL) and measures of letter identification, spelling and book reading in which the child read an easy-to-read book before and after a demonstration by the examiner. The parents were asked to fill out a questionnaire assessing parental support for early reading and asked for an estimate of the childs' interest in and knowledge about print. Following testing, the child got to take home the book s/he had been `shown' how to read in the pretesting session and the parents received three more books and a three page packet of guidelines for their use.

Wave 1 families (23 children in the experimental group) were sent an additional packet of three books during the summer along with a questionnaire about their child's interest in the books, possible gains in knowledge and the parent's estimate of usefulness. A third packet of books was sent in the fall. At the beginning of kindergarten, Wave 1 children, along with 22 classmates (from the same 3 classrooms in 3 different schools)

who served as matched controls (based on PPVT scores) were measured on a revised version of the Letter and Word Reading Test (McCormick & Mason, 1979). Subtests included letter recognition, printing and simple spelling and reading tasks including the reading of three easy books including one of the experimental books. The subtests were repeated in May with another set of easy books and the first-grade teachers of these children were asked to rank all of their children by reading ability.

The following year, a second wave of children (Wave 2) from another small rural district (27 children in the experimental group) were similarly tested, introduced to a book, parents received guidelines and the children received one packet of books only. This group was compared to 26 control group classmates from two different classrooms and both groups were posttested in November of their Kindergarten year by experimenters who did not know which children were in the experimental and control groups.

Stepwise multiple regressions were used in order to predict the childrens' end-of-Kindergarten reading test scores. The predictors used to predict their May posttesting scores on word knowledge, letter knowledge, spelling knowledge, story knowledge (sum of words read from the easy books) and the whole test (sum of all subtests) were gender, PPVT score and treatment condition.

Results showed that word knowledge and spelling scores in May were predicted by treatment and entering vocabulary scores (PPVT). Story reading was predicted by treatment only and letter knowledge by PPVT only. The parent questionnaire did not predict

reading knowledge after accounting for vocabulary differences. The lack of a vocabulary effect suggests that the treatment overcame incoming vocabulary differences. Changes in whole test scores were predicted by sex, PPVT score, and treatment. Wave 1 children (experimental and control) were dispersed between 5 first-grade classrooms. The first-grade teachers, unaware of the study, were asked to rank their 111 children. 21 of the 111 had been controls and 18 had been in the experimental group. To compare the groups, each child was given a percentile ranking and then these rankings were averaged for each group. The average ranking for the control group was the 41st percentile and 46th percentile was the ranking for the experimental group despite being matched groups early in Kindergarten. Still, a 5% difference is not a significant difference and is not a standardized test but is based on subjective ranking of the children. The average percentile rank for each group is still rather low (one would expect their percentiles to be higher than average, especially considering the proposed effects of a reading program) and of concern.

Only 1 of the experimental group children (6%) was in the low reading group whereas 6 of the control group children (29%) were in the low reading group. For the entire first grade, 32 out of 111 children (29%) were in the low reading group. This shows that, for this school district, 29% of the children being in the low reading group appears to be the norm which is reflected in the control group statistics. However, the

treatment group showed only a 6% rate of being ranked in the low reading group which is substantially lower and does show the effects of the experimental program on reading ability.

Wave 2 children were tested at an earlier time (October) and received fewer materials. Total story scores reflected only a .19 R^2 change as opposed to .30 R^2 for Wave 1 showing a diminished treatment effect perhaps resulting from less reading material and less time for it to have an effect.

Intervention research has found stronger positive results for language outcomes such as vocabulary than for literacy-specific outcomes (Scarborough & Dobrich, 1994). However, the numbers still show that interventions increasing the quality and frequency of shared book reading significantly increase language skills such as mean length of utterance, expressive and receptive vocabulary which, in turn, affect success in learning to spell, read and comprehend the English language.

In summary, we see that although observational studies of the various aspects of shared book reading have reported some positive effects on reading and vocabulary skill development in children, these effects have not been clear or strong. The longer term studies do seem to show stronger results than the shorter term ones but the research still does not support the broad statements that folk wisdom makes such as "reading to kids make them smarter, makes them better readers and helps them do better at school!". Throughout the literature we see the confounding influences of many family and child characteristics

on skill development and among the most important are the effects of child and family interest (in reading and learning) and shared book reading practices. Experimental studies report that increasing the frequency and quality of the reading interactions show positive although possibly confounded results.

This study took the literature reviewed into consideration and an experimental design was constructed to explore the effects of increasing the motivation/interest, frequency and quality variables of shared book reading on the growth of vocabulary and reading skill in children. With the results in hand we may either accept or reject the `reading makes smart' folk wisdom of our society based upon the results of this three-pronged experimental design.

Hypothesis

The hypothesis is that increasing the motivation/interest for children and their families to engage in more frequent and higher quality shared book reading interactions will significantly increase the vocabulary and reading/reading readiness abilities of preschool and school-aged children.

Method

Thirty preschool and thirty school-aged children and their families signed up as subjects in this research. Three subjects dropped out of the study (one treatment group school-age child, one control group preschooler and one control group school-age child) so only 57 completed the study. All fifty-seven subjects were residents of Kankakee County in Illinois. The subjects were selected from children attending preschool or school-age programs in either Kankakee or Bourbonnais, Illinois.

After informed consent forms were completed the 60 children were pretested using the Kaufman Brief Intelligence Test (K-BIT), the Test of Early Reading Ability-2 (TERA-2) and the Peabody Picture Vocabulary Test-Third Edition (PPVT-III) with the help of one assistant. T-tests were conducted and test scores between the two locations were not found to be significantly different from each other (except for a marginally significant difference between the two school-age groups on the PPVT-III that was missed). Due to the strong similarities between the groups, geographic separation was maintained to avoid contamination between groups and all treatment group children were located at the Kankakee location and all control group children were located at the Bourbonnais location.

The parents were instructed to keep a running record on provided forms of how many books they read with their children during the period of the reading program by writing the title of each book read. Re-reading was allowed and each reading counted

as a separate event on the list. The parents were also given a list of suggested authors, titles, series and types of books to use for this program. Efforts were made to remain flexible enough to work with the resources that parents have. However, parents were instructed that overly simple books (insufficient story line, few words per page, not age-appropriate) would not be accepted for this study. In this manner, the confounding variance (in scores) of drastically different books being used by different families was controlled.

The parents of the two treatment groups were given a "Book Reading Suggestions" sheet consisting of eight suggested ways to improve book reading quality stemming from literature reviewed earlier in this proposed research. Whether or not treatment group parents followed these suggestions was monitered by the checklist included in the forms that they document the books that they have read on. Beside each book that they added to their list they were able to check off any or all of the 8 suggestions that they followed in that particular book reading. Control group parents documented the books read on separate provided forms that did not include any book reading suggestions or checklists to monitor the quality of their book reading experiences. Controls simply wrote down the books that they read during the program. Forms were collected from all four of the groups at the end of the program.

Before the pretesting was completed and the program started, the forms were piloted with two families (not involved in the

actual study) for one week to monitor whether or not the forms and instructions were clear enough to be understood and used by parents. This allowed time for clarification of any problems or confusions. Treatment group parents were met with briefly to explain the program and to answer questions about the suggestions and checklist system. This opportunity was used to model some of the suggested ways in which to improve book reading quality to make it clear what was being suggested.

The extrinsic motivation for this reading program was that the family that documented reading the most books (honor system) in each of the two treatment groups during the period of the program would win a gift certificate for Toys " " Us in Bradley, IL. Receiving "free stuff" from Toys " " Us was used as a way to boost interest in reading books and motivate the children to sit down with parents to read lots of books to win what they would see as a contest or game. The gift certificate was also intended to serve as a motivator for the parents to read lots of books and to save themselves money buying things for their children. Both treatment and control group motivation was monitored through the use of two parental questionnaires, one given at pre-testing and one given after post-testing. These 10-item questionnaires (see Appendix 3) were specifically designed for each group and asked the parents questions such as (on a scale of 1 to 10) "how much do you enjoy reading books with your children" and "how interested are/were your child(ren) in winning the gift certificate" to measure (both pre-existing and program-motivated)

child and parental interest in reading, the focus placed on reading to children at young ages, the importance families place on reading skill and whether or not the offer of winning a gift certificate actually motivated the treatment group children and the parents to read any more books than usual for the program.

The two control groups experienced pretesting and posttesting under the premise that this was a book reading project entitled "Summer Bookfest". At the conclusion of the month of reading the forms were collected and the children were posttested with the PPVT-3 and TERA-2 along with the treatment group children. Controls did not know about nor have a chance to obtain the Toys " " Us gift certificates nor did control parents receive the "Book Reading Suggestions" sheet so that a comparison could be made between families doing what they typically do and and differences that might be seen within the treatment groups due to any effects of the experiment. After all data was collected, statistical analyses were run both within-groups and between the treatment groups and the control groups to see if any changes in test score data between groups could be attributed to increases in the frequency and/or quality of book reading sessions caused by manipulation of their motivation/interest variable. Experimental group participants were instructed **not** to mention the incentive program to any other children or families to avoid cross-contamination with the control groups that were not offered the motivation.

Instruments

The Kaufman Brief Intelligence Test (K-BIT, 1990) was used in pretesting because it is a quick (average 15 to 30 minute administration), standardized, norm-referenced short measure of intelligence of people aged 4 to 90 years of age that provides IQ scores. Buros (1995) provides the following information regarding the psychometric properties of the K-BIT. Split-half reliability coefficients are reported by age-level and for the two subtests (Vocabulary and Matrices) ranged from .74 to .98 (mean of .93). K-BIT IQ Composite reliability coefficients ranged from .88 to .98 (mean of .94). Test-retest reliability was comparable to the split-half reliabilities with Vocabulary ranging from .86 to .97, Matrices ranging from .80 to .92 and the K-BIT IQ Composite ranging from .92 to .95. Validity studies showed internal consistency of the two subtests ranging from .38 to .75 at each age level. The K-BIT has been correlated with other measures of intelligence and achievement and has been found to be psychometrically sound (pp. 533-34).

The Peabody Picture Vocabulary Test-III (PPVT-III, 1997) is a quick (5 to 15 minute administration), standardized, norm-referenced measure of receptive (hearing) vocabulary that can be used with subjects aged 2.5 to 90+ years of age. It was used in pretesting and posttesting as an indicator of possible growth in receptive vocabulary. The examiner presents four pictures and reads the stimulus word. Subjects then indicate by pointing or saying the number corresponding to what they believe is the

correct picture. The American Guidance Service provides the following psychometric data for the PPVT-III on their on-line store on the internet.

Parallel forms IIIA and IIIB are available with internal reliability (Alpha) ranging from .92 to .98 with a median of .95 for both Form IIIA and IIIB. Split-half reliability ranged from .86 to .97 (median of .94 for IIIA and IIIB). Test-retest reliability ranged from .91 to .93 for Form IIIA and .91 to .94 for Form IIIB. Alternate-Forms reliability ranged from .88 to .96 (median of .94). The correlation between the PPVT-III and PPVT-R W-ability scores was .97. Standard score correlations for three separate age groups ranged from .83 to .89.

In terms of criterion-related validity, the PPVT-III had the following correlations with the Wechsler Intelligence Scale for Children-III (WISC-III) and the Kaufman Brief Intelligence Test (K-BIT).

WISC-III Verbal IQ:	IIIA .91, IIIB .92.
WISC-III Performance IQ:	IIIA .82, IIIB .84
WISC-III Full Scale IQ:	IIIA and IIIB .90
K-BIT Vocabulary:	IIIA .82, IIIB .80
K-BIT Matrices:	IIIA .65, IIIB .62
K-BIT Composite:	IIIA .78, IIIB .76

Construct, concurrent and predictive validity were not given. Modifications were made before publication to make the PPVT-III a more demographically balanced test in terms of race, gender and physical disabilities. The PPVT-III does not require

reading, oral or written response and as such is useful in testing individuals with language, visual and motor limitations (AGS, 1998).

The Test of Early Reading Ability-2 (TERA-2, 1981) is a quick (15 to 30 minute average administration), standardized, norm-referenced measure of reading skill for ages 3.0 to 9.11 that was used in pretesting and posttesting as an indicator of any possible change that may have occured in reading ability as a result of the experiment. Buros (1992) presents the following information regarding the psychometric properties of the TERA-2. Equivalent forms A and B are available and coefficients of internal consistency ranged from .89 and up for ages 3 to 7 on both forms. Test-retest reliability coefficients ranged from .79 after age differences were factored out and .89 after the influence of time sampling error was factored out using Anastasi techniques. The authors of the test present evidence for content, criterion-related and construct validity and the measure correlates well with performance on the Reading subtest of the Basic School Skills Inventory-Diagnostic and moderately well with scores on the Paragraph Reading subtests of the Test of Reading Comprehension. The TERA-2 is recommended as a "probing device" and "starting point for instructional design" and thus appears to be an appropriate measure for the purposes of this proposed research (pp. 942-946).

All four groups were posttested using the PPVT-III and TERA-2 after the one-month long reading program and statistics were

run to see whether the program had any effects on vocabulary and reading scores that could be causally related to increased interest in, frequency of and quality of shared reading experiences.

Results

T-tests with site as the independent variable and each of the pretests as dependent variables conducted prior to the assignment of the children to conditions indicated no significant differences (largest $t(58)=.589$ $p>.05$) between the children at the two sites. Thus, geographic separation of control and experimental groups was permitted (see Table 1).

Unfortunately, the appropriate MANOVA (conducted after all the experimental data were collected) with both **age** and site as independent variables and the three pretest measures as dependent variables indicated a significant interaction between condition and the set of dependent measures ($F(1,3)=2.719$, $p<.05$). Inverse relationships were evident between scores on the TERA-2 and PPVT-III (See Table 1). Because the groups differed at pre-test, it was necessary to equate the groups statistically prior to trying to determine whether the independent variables had any effect on the posttest scores. In order to conduct the appropriate post-experimental MANCOVA, the pretest TERA-2 and PPVT-III scores were covaried out of the appropriate posttests using least-squares regression and residual scores were created. These residual post-test scores were included in a fully factorial MANCOVA with age and site as the independent variables, the residual scores as

the dependent variables and the K-BIT scores as the covariate. The results showed no significant between-groups effects relating either age or condition to posttest scores (largest $F=.461$, $p>.05$). No significant within-groups interactions were found either (largest $F=1.063$, $p>.05$: see the group means in Table 1).

Because the planned statistical analyses were not significant, a Pearson correlational matrix was computed to evaluate the relations between the variables. Because there were significant correlations between many of the major variables (see Table 2) several path analyses were evaluated to identify which path model would most accurately describe the data. All models evaluated produced essentially the same results (See Figure 1). Not surprisingly, intelligence was related to both reading ($ß=.359$, $p<.01$) and vocabulary ($r=.315$, $p<.05$) scores at pretesting. Also, not surprisingly, reading and vocabulary at pretesting were correlated with themselves at posttesting ($ß=.443$, $p<.01$ and $ß=.647$, $p<.01$ respectively).

What is surprising is that vocabulary and reading were not found to be related to each other at either pretesting ($ß=.058$, $p<.05$) or at posttesting ($ß=.126$, $p<.05$). This shows that, within the context of this study, the two abilities appear to be developing independently of one another. Also of interest is that intelligence was independently related to reading at posttesting. Of the variables investigated in this study, intelligence appears to be the factor that is the best predictor of the development of vocabulary and reading ability. Since

intelligence was independently related to reading scores at pretesting and again at posttesting it appears that intelligence may have a continuing influence on the development of reading ability in children.

To determine whether the gift certificates served as effective motivation for experimental group families to share more book reading during the program, the data from the book recording forms was evaluated. Despite the fact that more treatment group families submitted book reading forms than control group families (indicating that some increase in motivation appears to have been created by the offer of the gift certificates) this relatively small percentage of families turning in book reading forms (fifteen experimental versus four control, nineteen total equaling only 31.66% of the total sample) shows limited motivation and/or available time to participate fully. The most books read by any family involved in the program was fifty-six. The median number of books read was 29 with a range of 49 (7 to 56) books read and documented for the program and the mean was 28.316 with a standard deviation of 13.536. The average number of books read per day was .94 (the family that documented the most books for this program only averaged 1.8 books per day) indicating that families averaged fewer than one book per day during this program. In comparison to DeBaryshe (1993) in which mothers reported an average number of books read per week of 18.02, the families in this study averaged only 6.58 books per week despite a program designed to increase shared book

reading. The offer of gift certificates does not appear to have had much effect in terms of motivation for the families. An ANOVA was conducted but no significant effects were found relating the number of books read to either experimental condition or age (largest $F(1,15)=2.365$, $p>.05$) This program did not have any significant effects upon interest in shared book reading.

Data gathered from the parent questionnaires was not found to correlate with either age or condition or the interaction of the two (largest $F=(1,15)=2.37$, $p>.1$) so pre-existing parent and/or child interest in reading was not found to have any effects on vocabulary or reading ability. Families apparently were not affected by the offer of gift certificates as motivation to increase their interest in book reading because parents of only fifteen experimental and four control children (of a total of 60 enrolled) turned in their book reading forms with their questionnaires.

Conclusions

What comes out of this research is that receptive vocabulary and reading ability appear to develop along separate lines. It might be expected that vocabulary and reading would be strongly related to each other because they are both language skills. Both are concerned with words (recognition, knowledge and comprehension) and one would think that knowing more words would necessarily make a child a better reader. This does not,

however, appear to be the case as we can see that the two abilities are developing separately without influencing each other.

This study did not find the `folk wisdom' effects of shared book reading upon the development of either vocabulary or reading ability and several hypotheses as to why can be put forward. First of all, reading is a skill that requires many abilities such as word recognition, understanding of syntax and the ability to comprehend what is read among others. Perhaps vocabulary and reading ability were not found to be related because the PPVT-III measures receptive (hearing) vocabulary whereas reading involves visual processes of word recognition and understanding. Current research tends to look at either expressive vocabulary (number of words a subject can use in speech) or receptive vocabulary (number of words a subject recognizes through auditory channels). Further research might examine interactions between visual word recognition ability and reading ability. In summary, just because a child may have the ability to hear and recognize a word (receptive vocabulary) and/or the ability to use that word in speech (expressive vocabulary) may not necessarily mean that that child will have the ability to read that word (reading ability) and understand it (comprehension) in the context of what is being read. Secondly, the incentive of winning a $50 gift certificate may not have been enough to motivate the families (the children or the parents) to read more books than usual. Thirdly, seeing as it was only feasible to run the program for one month, it may

have been too short of a time for any possible increases in frequency or quality of shared book reading interactions to have any measurable effects on abilities. With the exception of Whitehurst et al.(1988), shorter term studies (Crain-Thoreson & Dale, 1992; Irwin, 1960, Scarborough & Dobrich, 1991) in the literature also showed smaller correlations between variables than the longer term studies (Burgess, 1997; DeBaryshe 1992 and 1993; Brzeinski, 1964; Donachy, 1976; McCormick & Mason, 1986; Wells, 1985a, 1985b, 1986; Wells et al., 1984) so perhaps shared book reading has a cumulative effect over the long term. Fourthly, the summer was chosen as the time to run this program so that school-aged children would be present in the two centers to allow for comparisons across age-groups. Because of this, the program ran in July which is one of the busiest months of the year for families with children considering that many of them are involved in sporting activities, family outings, vacations and other additional activities. These activities likely reduced the amounts of time and energy that families were able to put into completion of this program that they might otherwise have been able to afford during a less hectic time of the year. Finally, there is the possibility that creating extrinsic motivation for an already intrinsically motivated activity (shared book reading) might have actually had a negative effect on frequency and/or quality of reading in the homes. What remains is that any combination of the above factors may well explain the null results found in this study or it might simply be true that

shared book reading simply does not have the effects that many people expect it to have on skill development.

Future research might try a similar design over a longer period of time (with or without the addition of techniques used in other studies such as parent-training groups, book lending libraries, review of audiotaped sessions, etc) to determine whether long-term exposure to frequent and high-quality shared book reading might produce direct causal relationships between shared book reading and abilities as short-term studies have not shown the same effects as longer studies.

The `folk wisdom' that sharing book reading with children necessarily "makes them smarter" is still unproven. While shared book reading is widely accepted as a way to develop vocabulary and reading ability in our children (and correlational data exists to show that these variables are relevant) no causal relations have yet been identified. Perhaps additional studies concerning this issue will prove otherwise but until then it can not be assumed that sharing book reading with your children will automatically increase their vocabularies or teach them how to read.

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Table 1

Means (and standard deviations)

		PRETESTS.....			POSTTESTS.....	
CONDITION	**AGE**	**K-BIT**	**TERA2-1**	**PPVT-III-1**	**TERA2-2**	**PPVT-III-2**
Control	Preschool	100.1 (8.9)	108.3 (7.3)	96.5 (12.1)	107.2 (8.6)	97.3 (12.5)
	School-age	100.4 (14.5)	102.9 (12.7)	99.5 (9.3)	103.8 (11.9)	104.1 (11.5)
Treatment	Preschool	99.9 (9.3)	102.6 (10.0)	98.5 (10.4)	105.1 (12.8)	102.2 (11.5)
	School-age	104.0 (11.7)	100.26 (13.7)	106.4 (9.5)	102.1 (12.3)	105.6 (9.1)

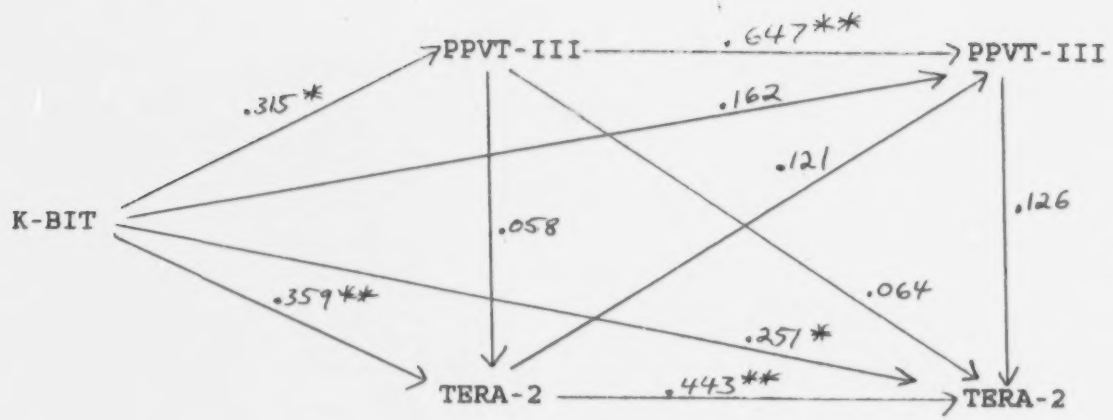
Table 2

Correlations

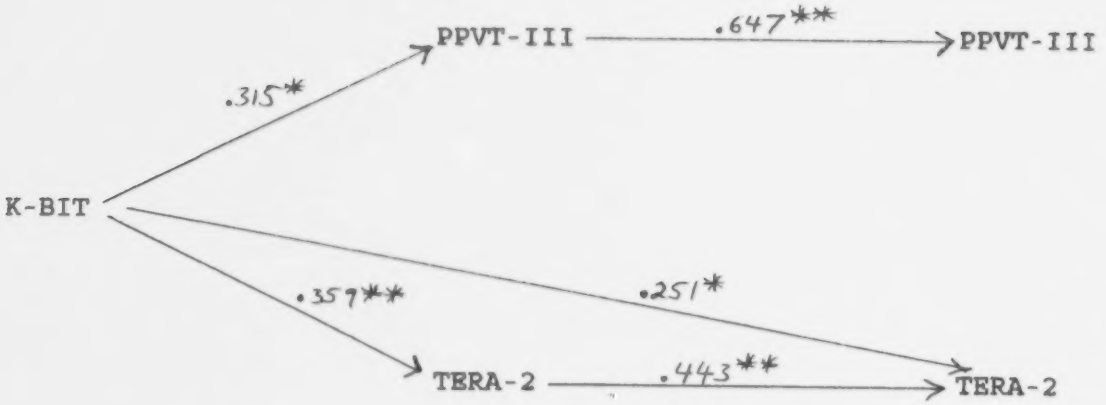
	.....PRETESTING.....			,,,POSTTESTING,,,	
	K-BIT	TERA-2	PPVT-III	TERA-2	PPVT-III
K-BIT	1.000				
TERA-2	0.377*	1.000			
PPVT-III	0.315	0.171	1.000		
TERA-2	0.513**	0.591**	0.267	1.000	
PPVT-III	0.398*	0.253	0.704**	0.384*	1.000

* $p \leq .05$
** $p \leq .01$

COMPLETE MODEL



MODEL WITH THE NON-SIGNIFICANT PATHS DELETED



* =p<.05
** =P<.01

FIGURE 1: PATH ANALYSIS RESULTS

Appendix 1 : Definitions

Shared book reading - is defined as any period of time in which a child or group of children sit down with a literate person (usually a parent, family member or teacher) to share the reading of a book. In this scenario, the child is read to, the child takes turns reading from the book with the adult or the child reads the book entirely to the adult. Shared book reading refers both to the process of and to the situation of sitting down to share a book. Applies to home or school settings.

Literacy - is defined as the ability to read, spell and write Standard American English.

Emergent literacy - is defined as skills that younger (preschool) children may exhibit: as opposed to full literacy. Literacy is emerging in the form of the children being able to identify and print letters of the alphabet, understand some rudimentary letter-sound relations, recognize some printed words and to have some knowledge of the mechanics and purposes of reading books. Test measures used take the emergent literacy skills of preschoolers and literacy skills of school-aged children into consideration.

Oral language - is defined as the ability to speak coherently and be understood

Word knowledge - is defined as a tested general knowledge of words, sum of words known and knowledge about words as being combinations of letters that represent objects in the environment.

Knowledge of the world - refers to what the child knows about the world around him or her. This is a term used in intelligence testing, refering loosely to the childs' awareness of his or her surroundings.

Appendix 1 - Continued

Receptive vocabulary - is defined as how many words a person understands, receptive meaning what is understood from reading or hearing language used. Measured with children through use of picture vocabulary tests such as the PPVT-III.

Expressive vocabulary - is defined as how many words as person can use in speech or in writing, again a list of words that a person understands. Verbal and written abilities.

Reading ability - loosely defined as the ability to read written language and understand the words used as well as comprehend the syntax. Ability to look at written Standard American English and understand it.

Appendix 2 - Abbreviations

PIAT - Peabody Individual Achievement Test

PPVT-III- Peabody Picture Vocabulary Test - Revised

TERA-2 - Test of Early Reading Ability - 2

TACL-R - Test of Auditory Comprehension of Language - Revised

WPPSI-R - Wechsler Preschool and Primary Scale of Intelligence - Revised

ITPA - Illinois Test of Psycholinguistic Abilities

EPVT - English Picture Vocabulary Test

RDLS - Reynell Developmental Language Scales

EOWPVT - Expressive One-Word Picture Vocabulary Test

K-BIT - Kaufman Brief Intelligence Test

SB - Stanford Binet (Intelligence Test)

IQ - Intelligence Quotient, number/score indicator of level of intelligence comparatively

ANOVA - Analysis of Variance, statistical procedure

ANCOVA - Analysis of Covariance, statistical procedure

PT - Preschool Treatment Group

PC - Preschool Control Group

ST - School-Aged Treatment Group

SC - School-Aged Control Group

Appendix 3a

Questions about reading in your home

On a scale of 1 to 10 (with 1 being the least and 10 the most....), please circle a number for each question.

1. How much do you enjoy reading books with your child(ren)?	1	2	3	4	5	6	7	8	9	10
2. How interested is/are your child(ren) in books and learning?	1	2	3	4	5	6	7	8	9	10
3. How interested are **you** in books and learning?	1	2	3	4	5	6	7	8	9	10
4. How much do your children enjoy reading books with you?	1	2	3	4	5	6	7	8	9	10
5. In your opinion, how important is reading for children to learn?	1	2	3	4	5	6	7	8	9	10

 # 6-10, please indicate how strongly you agree with the following.....

6. Reading ability is important in my present job/occupation.	1	2	3	4	5	6	7	8	9	10
7. Children should be read to as early in their life as possible.	1	2	3	4	5	6	7	8	9	10
8. My family often takes trips to the library to read and/or borrow books.	1	2	3	4	5	6	7	8	9	10
9. My children naturally spend time with books without being told to.	1	2	3	4	5	6	7	8	9	10
10. I enjoy reading in my spare time (newspapers, books, magazines).	1	2	3	4	5	6	7	8	9	10

Info part: My child(ren) is/are _____ years old and attend the _____ Lasting Impressions location.

Parents: Thank you so very much for your involvment in this project! I appreciate your help!

Appendix 3b

Questions about reading in your home

On a scale of 1 to 10 (with 1 being the least and 10 the most....), please circle a number for each question.

1. How much did you enjoy reading books with your child(ren)?	1	2	3	4	5	6	7	8	9	10
2. How interested is/are your child(ren) in books and learning?	1	2	3	4	5	6	7	8	9	10
3. How interested are **you** in books and learning?	1	2	3	4	5	6	7	8	9	10
4. How much did your children enjoy reading books with you?	1	2	3	4	5	6	7	8	9	10
5. In your opinion, how important is reading for children to learn?	1	2	3	4	5	6	7	8	9	10

 # 6-10, please indicate how strongly you agree with the following.....

6. Reading ability is important in my present job/occupation.	1	2	3	4	5	6	7	8	9	10
7. Children should be read to as early in their life as possible.	1	2	3	4	5	6	7	8	9	10
8. My family often takes trips to the library to read and/or borrow books.	1	2	3	4	5	6	7	8	9	10
9. My children naturally spend time with books without being told to.	1	2	3	4	5	6	7	8	9	10
10. I enjoy reading in my spare time (newspapers, books, magazines).	1	2	3	4	5	6	7	8	9	10

Info part: My child(ren) is/are _____ years old and attend the _____ Lasting Impressions location.

Parents: Thank you so very much for your involvment in this project! I appreciate your help!

Appendix 3c

Questions about reading in your home

On a scale of 1 to 10 (with 1 being the least and 10 the most....), please circle a number for each question.

1. How much do you enjoy reading books with your child(ren)?	1	2	3	4	5	6	7	8	9	10
2. How interested is/are your child(ren) in winning the gift certificate?	1	2	3	4	5	6	7	8	9	10
3. How interested are **you** in winning the gift certificate?	1	2	3	4	5	6	7	8	9	10
4. How much do your children enjoy reading books with you?	1	2	3	4	5	6	7	8	9	10
5. In your opinion, how important is reading for children to learn?	1	2	3	4	5	6	7	8	9	10

 # 6-10, please indicate how strongly you agree with the following.....

6. Reading ability is important in my present job/occupation.	1	2	3	4	5	6	7	8	9	10
7. Children should be read to as early in their life as possible.	1	2	3	4	5	6	7	8	9	10
8. My family often takes trips to the library to read and/or borrow books.	1	2	3	4	5	6	7	8	9	10
9. My children naturally spend time with books without being told to.	1	2	3	4	5	6	7	8	9	10
10. I enjoy reading in my spare time (newspapers, books, magazines).	1	2	3	4	5	6	7	8	9	10

Info part: My child(ren) is/are _____ years old and attend the _____ Lasting Impressions location.

Parents: Thank you so very much for your involvment in this project! I appreciate your help!

Appendix 3d

"Now that we're done!!" post questionnaire

Please enter a number on a scale of 1 to 10 (with 1 being the least and 10 being the most...) on the line after each question.

1 How much did you enjoy sharing books with your children for this program? _____

2 How much did your child(ren) seem to enjoy sharing books for this program? _____

3 How much did competing for a gift certificate motivate you to read more books? _____

4 How much did competing for a gift certificate motivate your child(ren) to read books? _____

 # 5-10, please indicate (between 1-10) how strongly you agree with the following statements.....

5 In general, my child(ren) appear to like/enjoy going to either preschool or school. _____

6 This program made my family share a lot more books than we otherwise would have. _____

7 Our family made additional trips to the library during or because of this program. _____

8 My child(ren) seem to be spending time with books more **on their own** now too. _____

9 Sharing book reading with children increases their vocabulary and reading ability. _____

10 I believe that shared book reading at home increases a childs' success at school. _____

NAME: _____

AGE: _____